



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,795	02/10/2004	Richard Heinen	DN2004013	9693

27280 7590 04/05/2006

THE GOODYEAR TIRE & RUBBER COMPANY  
INTELLECTUAL PROPERTY DEPARTMENT 823  
1144 EAST MARKET STREET  
AKRON, OH 44316-0001

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/775,795	<b>Applicant(s)</b> HEINEN, RICHARD	
	<b>Examiner</b> Steven D. Maki	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1733

1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Europe 456 (tetragon blocks on EP)

2) **Claims 1, 5, 10-12, 15-16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 456 (EP 890456) in view of at least one of Japan 207 (JP 6-135207), Cesarini et al (WO 00/30874) and Iwamura et al (US 6109317).**

Europe 456, directed to an all season pneumatic tire for passenger cars, discloses a pneumatic tire having a tread comprising a row of tetragon blocks between two circumferential grooves wherein (1) the blocks have a "relatively large circumferential component" (col. 6 lines 44-45) and (2) are separated by steep slant grooves inclined at a small angle (e.g. 20 degrees) with respect to the circumferential direction. Hence, Europe 456 substantially discloses the claimed invention except that Europe 456 is silent as to the length of the block relative to the footprint.

As to claims 1 and 20, it would have been obvious to one of ordinary skill in the art to provide Europe 456's tire *with a footprint* such that the circumferential length of the steep slant grooves and the circumferential length of the tetragon blocks is at least 100 % (claim 1) or 100-400% (claim 20) of the footprint length IN VIEW OF:

(1) Europe 456's teaching to provide a pneumatic car tire for use on wet roads with central slant grooves and tetragon blocks wherein (a) the tetragon blocks have a "relatively large circumferential component" (col. 6 lines 44-45), (b) the circumferential

Art Unit: 1733

length of the blocks is longer than the circumferential length of the central slant grooves, which extend between two circumferential grooves and (c) four shoulder grooves are provided for each tetragon block,

AND IN VIEW OF:

(2) at least one of (A) Japan 207's suggestion to provide a pneumatic car tire for use on wet roads with a footprint (figure 1) such that (a) the central slant grooves between two circumferential grooves have a length longer than the footprint length (figure 1) and (b) the footprint contains upto four shoulder grooves, (B) Cesarini et al's suggestion to provide a pneumatic car tire for use on wet roads with a footprint (figure 2) such that the central slant grooves have a length longer than the footprint so as to be able to drain water underneath the tire footprint (page 7 lines 33-36, page 16 lines 23-24) and (C) Iwamura et al's suggestion to provide a pneumatic car tire for use on wet roads with a footprint (figure 3) such that (a) a central slant groove between two circumferential grooves has a length longer than the footprint in order to achieve required water dissipating capability (col. 2 lines 6-10) and (b) the footprint contains four shoulder grooves.

As to claim 5, the width of region TC is 15-45% such as 25%.

As to claim 10, the blocks are on the EP.

As to claim 11, the claimed distance d would have been obvious in view of the shape and length of the center blocks shown by Europe 456.

As to claim 12, the acute angle corners of the center blocks are chamfered.

As to claim 15, Europe 456 shows the width of the slant grooves as being smaller than the width of the circumferential grooves.

As to claim 16, the claimed width WB would have been obvious in view of (1) Europe 456's teaching to use blocks having a relatively large circumferential length in a central region having a width of 15-45% TW and (2) Europe 456 shows the center blocks as having a width (perpendicular to the short grooves) less than the distance between the circumferential grooves.

As to claim 19, it would have been obvious to incline the circumferentially extending sides of the center blocks at an angle greater than 0 degrees to the centerline since Japan 207 suggests inclining circumferentially extending sides of blocks in a central region at an angle of about 2 degrees to improve wandering performance.

**3) Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 456 in view of at least one of Japan 207, Cesarini et al and Iwamura et al as applied above and further in view of Japan 907 (JP 2-41907).**

As to claim 18, it would have been obvious to provide the tetragon blocks with alternating different lengths since it is well known / conventional per se to provide a tire tread with alternating pitches / blocks of different length in order to reduce noise as evidenced by Japan 907 (figure 1, abstract).

**4) Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Europe 456 in view of at least one of Japan 207, Cesarini et al and Iwamura et al as applied above and further in view of Nakagawa (US 6102093).**

Art Unit: 1733

As to claims 17 and 18, it would have been obvious to one of ordinary skill in the art to provide Europe 456's center blocks with different widths and different lengths as claimed in view of Nakagawa's suggestion to provide center blocks with different widths and different lengths to improve on ice performance.

Japan 413 (two columns of tetragon blocks)

5) **Claims 1, 5-7, 11-12, 15-16, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 413 (JP 11-5413) in view of at least one of Japan 207, Cesarini et al and Iwamura et al.**

Japan 413 discloses an all weather pneumatic passenger car tire comprising two rows of tetragon shaped central blocks wherein each block row is between a center circumferential groove and an outer circumferential groove. The blocks are separated by steep slant grooves inclined at an acute angle of 10-45 degrees with respect to the circumferential direction. The length of the central blocks is 2-5 times the length of adjoining blocks 9. Hence, Japan 413 substantially discloses the claimed invention except that Japan 413 is silent as to the length of the block relative to the footprint.

As to claims 1 and 20, it would have been obvious to one of ordinary skill in the art to provide Japan 413's tire *with a footprint* such that the circumferential length of the slant grooves and the circumferential length of the central blocks separated by the steep slant grooves is at least 100 % (claim 1) or 100-400% (claim 20) of the footprint length since IN VIEW OF:

(1) Japan 413's teaching to provide a pneumatic car tire for use on wet roads with central slant grooves and tetragon blocks wherein (a) the tetragon blocks have a

Art Unit: 1733

length of 2-5 times the length of adjoining blocks (shoulder blocks), (b) the circumferential length of the tetragon blocks is longer than the circumferential length of the central slant grooves, which extend between two circumferential grooves and (c) two to five shoulder grooves are provided for each tetragon block,

AND IN VIEW OF:

(2) at least one of (A) Japan 207's suggestion to provide a pneumatic car tire for use on wet roads with a footprint (figure 1) such that (a) the central slant grooves between two circumferential grooves have a length longer than the footprint length (figure 1) and (b) the footprint contains upto four shoulder grooves, (B) Cesarini et al's suggestion to provide a pneumatic car tire for use on wet roads with a footprint (figure 2) such that the central slant grooves have a length longer than the footprint so as to be able to drain water underneath the tire footprint (page 7 lines 33-36, page 16 lines 23-24) and (C) Iwamura et al's suggestion to provide a pneumatic car tire for use on wet roads with a footprint (figure 3) such that (a) a central slant groove between two circumferential grooves has a length longer than the footprint in order to achieve required water dissipating capability (col. 2 lines 6-10) and (b) the footprint contains four shoulder grooves.

As to claim 5, see the spacing of the circumferential grooves in figure 1.

As to claims 6 and 7, Japan 413 teaches two circumferential grooves in one half wherein one circumferential groove is on the EP.

As to claims 11 and 16, the claimed distance  $d$  and width  $WB$  would have been obvious in view of the shape of Japan 413's blocks and Japan 413's teaching to provide the blocks with a length 2-5 times the length of the adjoining blocks.

As to claim 12, Japan 413 teaches chamfers 16.

As to claim 15, see figure 1 and table 2.

With respect to "the tread comprising a single circumferentially extending column of tetragon shaped blocks located only in one tread half" (claim 21, emphasis added), Japan 413 places a single circumferentially extending column of tetragon shaped blocks only in one tread half. In other words, neither of Japan 413's rows of tetragon blocks is located in both tread halves.

**6) Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 413 in view of at least one of Japan 207, Cesarini et al and Iwamura et al as applied above and further in view of German 574 (DE 614574) or Gerresheim et al (US Des. 414728).**

As to claims 2-4, it would have been obvious to provide Japan 413's overlapping relatively long blocks separated by the steep slant grooves such that a lateral line can be drawn through at least two or three blocks as claimed in view of

(1) Japan 413's teaching to provide the tetragon blocks with a length of for example five times the length of the shoulder blocks and (2) the suggestion from German 574 (figure 7) or Gerresheim et al (figure 2) to provide overlapping relatively long blocks separated by steep slant grooves such that a lateral line can be drawn through three blocks.



Art Unit: 1733

**7) Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 413 in view of at least one of Japan 207, Cesarini et al and Iwamura et al as applied above and further in view of Himuro (US 6892775) or Boiocchi et al (US 5964266).**

As to claims 8 and 9, it would have been an obvious alternative to provide the tread pattern of Japan 413's all season tire as a directional tread pattern instead of a nondirectional tread pattern since (1) Himuro suggests providing an all season tire having slant grooves as a directional tread pattern (figure 2) or a non directional tread pattern (figure 1) or (2) Boiocchi et al suggests providing a motor vehicle tire for use on wet roads having slant grooves such that it has a non-directional pattern (figure 1) or a directional tread pattern (col. 8 lines 46-50).

**8) Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 413 in view of at least one of Japan 207, Cesarini et al and Iwamura et al as applied above and further in view of Japan 508 (JP 2-179508).**

As to claims 13 and 14, it would have been obvious to provide Japan 413's blocks such that the upper portion defines a facing angle of 70-85 degrees with respect to the radial direction (5-30 degrees with respect to the tread surface) whereas the lower portion of the block defines a smaller angle with respect to the radial direction since Japan 508 suggests configuring blocks with such a facing angle to reduce noise and improve non-uniform wear (abstract, figures 1, 2).

Art Unit: 1733

9) **Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 413 in view of at least one of Japan 207, Cesarini et al and Iwamura et al as applied above and further in view of Japan 907 (JP 2-41907).**

As to claim 18, it would have been obvious to provide the tetragon blocks with alternating different lengths since it is well known / conventional per se to provide a tire tread with alternating pitches / blocks of different length in order to reduce noise as evidenced by Japan 907 (figure 1, abstract)

Remarks

10) Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

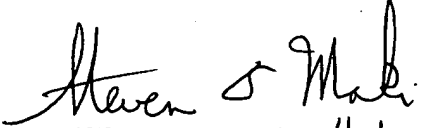
11) No claim is allowed.

12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
April 1, 2006

  
**STEVEN D. MAKI** 4-1-06  
**PRIMARY EXAMINER**